

REMARKS

Claims 1-21 are pending in the application.

Claim rejections-35 U.S.C. § 103

Claims 1-21 have been rejected under 35 U.S.C. §103(a) as being obvious over the combined teachings of Burnham (US 6,841,515), Burnham *et al.* (US 5,853,450) and Kimura (US 5,093,262). The Examiner mentioned that it would have been obvious to the ordinary artisan at the time the invention was made to have made a granular fertilizer composition comprising a bacterial fermentation product because the prior art teaches solid fertilizer compositions comprising known NPK fertilizer components in combination with bacterial materials.

Following the last response submitted September 29, 2006, the Examiner further argues that the reference of Burnham (US '515) alone makes the instant invention obvious. The examiner further mentions that Burnham (US '450) and Kimura **are withdrawn** from the rejection since neither teaches fermentation stopped. However, the Examiner is of the opinion that Burnham (US '515) biosolids do not require encapsulation and would therefore allow the bacteria to be available in active form. The Examiner further mentions that Burnham (US '515) teaches a bacterial fermentation sludge that is equivalent to the bacteria being obtained from fermentation stopped before bacteria is in a dormant stage.

In this regard, Applicant wishes to respectfully point out that the document of Burnham (US '515) teaches a method of production of encapsulated and/or concentrically-constructed fertilizer. The document of Burnham (US '515) teaches that biosolids can be processed into granules constructed of a core with one or more surrounding layers to give controlled performance or sustained release to match the desired use of the granules. More specifically, the micro-organisms are included in one or more layers of the granule (see column 2 lines 25-46 in

Burnham). Even though Burnham (US '515) mentions in column 4 and 6 that the biosolids can be encapsulated, it is clear from the text recited at column 4, lines 38-49 that homogenous granules are not ideal for biosolid treatment. Burnham (US '515) specifically teaches that homogenous granules have a problem which consists in that they tend to react with water, oxygen and other substances during storage. Thus, the invention disclosed in Burnham (US '515) presents a solution to the mentioned problem which is a method that allows controlled release of the active contents. A person skilled in the art would acknowledge that in order to control the release of the active ingredients, a granule needs not to be homogenous and needs to include at least one layer. Consequently, even though Burnham (US '515) mentions in column 4 and 6 that the biosolids can be encapsulated, the description is teaching away from the possibility of producing a granule without encapsulation. At least, the granules produced following the method of Burnham (US '515) needs to have at least one layer so as to overcome the drawbacks of the prior art identified therein. Doing otherwise would deny the invention disclosed in Burnham (US '515). Further, the Applicant wishes to reiterate that the objective of the encapsulating outer layer taught in Burnham is to allow a control on the release of the active contents and not to allow immediate activation of the bacteria and thus without lag time. It is clearly stated in column 4, lines 56-60 of Burnham that *"Accordingly, the inventors realized great improvement to the art of biosolid use may be obtained by 1) limiting exposure and activation of active substances in the biosolid during storage, and 2) control of biosolid disintegration during use..."*.

Thus, it is believed that the document of Burnham teaches away from the present application since the present application is claiming a fertilizer wherein the bacteria are active immediately, i.e. readily available and without a lag time. The present application teaches, and claims in amended claim 1, a method of producing a fertilizer comprising the step of mixing a

granular fertilizer with a ferment comprising active bacteria, wherein bacteria are obtained from a fermentation stopped before bacteria get into a dormant stage, which will cause the bacteria to have a lag time upon re-hydration. The bacteria once sprayed on the fertilizer are ready to resume their growth and/or activity upon application and their release is not controlled by the presence of a layer or an encapsulation. The present application is claiming bacteria that, once sprayed on the fertilizer, are ready to resume their growth and/or activity upon application and there is no control or limitation on their activation as taught by Burnham.

In addition, Applicant wishes to resubmit that the present application is claiming a method for producing a fertilizer or a fertilizer produced by said method wherein the ferment is used at a rate of at most 3 liters of ferment per ton of fertilizer. As mentioned on page 6 of the present application, spraying the fertilizer at a higher rate will cause the fertilizer to partly solubilize, liberating nitrogen concentrated at the surface of the fertilizer, in the vicinity of the bacteria, which is toxic to the bacteria in such concentrated micro-environment. Consequently, a person skilled in the art with the teaching of the present application would recognize that dissolving the fertilizer in greater volume would cause toxicity to the bacteria and kill them. Thus, nowhere in Burnham is there any teaching or even suggestion of a method of producing a fertilizer comprising the step of mixing a granular fertilizer with a ferment comprising active bacteria, wherein bacteria are obtained from a fermentation stopped before bacteria get into a dormant stage and therefore have no lag time upon re-hydration, and that a ferment is used at a rate of at most 3 liters of ferment per ton of fertilizer in order to not cause toxicity to the bacteria. Further, the present application is claiming that the ferment is used at a rate of 0.5 to 2.0 liter of ferment per ton of granular fertilizer (claim 2); that the ferment is cooled down prior to being mixed with the granular fertilizer (claims 3-5); that the ferment of active bacteria is obtained by

fermentation of said bacteria until the end of the exponential growth phase (claims 6-8). Nowhere in Burnham is there any teaching or even suggestion of the subject matter presented hereinabove and claimed in the present application. Thus, it is believed that there is no incentive in Burnham that will lead a person skilled in the art to obtain the present invention.

In view of the amendments and arguments presented hereinabove, reconsideration of Examiner's rejections under 35 U.S.C. §103(a), is earnestly requested.

It is submitted, therefore, that the claims are now in condition for allowance. Reconsideration of the Examiner's rejections is respectfully requested. Allowance of claims 1-21 at an early date is solicited.

In the event that there are any questions concerning this amendment or the application in general, the Examiner is respectfully urged to telephone the undersigned so that prosecution of this application may be expedited.

If any additional fees are required, the commissioner is hereby authorized to charge Deposit Account No. 50-0850.

Respectfully submitted,

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